Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_

**Meiosis Worksheet**

Ms. Ottolini, Pre-AP Biology

For each description given below, identify the stage of Meiosis I that corresponds to this description. Your options are prophase I, metaphase I, anaphase I, and telophase I / cytokinesis. The stage names may be used more than once.

|  |  |  |
| --- | --- | --- |
| **#** | **Description** | **Stage Name** |
| 1 | Pairs of homologous chromosomes separate and travel to opposite ends of the dividing cell |  |
| 2 | Pairs of homologous chromosomes come together and exchange segments of DNA |  |
| 3 | The nuclear membrane and nucleoli reform around the chromosomes in the two daughter cells |  |
| 4 | The fibers of the mitotic spindle push the pairs of homologous chromosomes to the center of the dividing cell. |  |
| 5 | The cell membrane pinches in to divide the cytoplasm (including organelles) of the two daughter cells. |  |
| 6 | The mitotic spindle is built. |  |

For each image given below, identify the stage of Meiosis I that corresponds to this image. Your options are prophase I, metaphase I, anaphase I, and telophase I / cytokinesis.

|  |  |  |
| --- | --- | --- |
| **#** | **Image** | **Stage Name** |
| 7 |  |  |
| 8 |  |  |
| 9 |  |  |
| 10 |  |  |

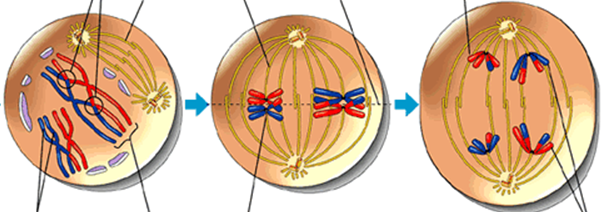
For each description given below, identify the stage of Meiosis II that corresponds to this description. Your options are prophase II, metaphase II, anaphase II, and telophase II / cytokinesis. The stage names may be used more than once.

|  |  |  |
| --- | --- | --- |
| **#** | **Description** | **Stage Name** |
| 11 | The nuclear membrane and nucleolus break down. |  |
| 12 | The fibers of the mitotic spindle push the chromosomes to the center of the dividing cell, where they line up single file. |  |
| 13 | The mitotic spindle breaks down. |  |
| 14 | Pairs of chromatids separate and the daughter chromosomes move to opposite ends of the dividing cell. |  |
| 15 | Daughter chromosomes uncoil into chromatin. |  |

For each image given below, identify the stage of Meiosis II that corresponds to this image. Your options are prophase II, metaphase II, anaphase II, and telophase II / cytokinesis.

|  |  |  |
| --- | --- | --- |
| **#** | **Image** | **Stage Name** |
| 16 |  |  |
| 17 |  |  |
| 18 |  |  |
| 19 |  |  |

20. Does the image below show Meiosis I or Meiosis II? How do you know? (Provide three pieces of evidence to support your claim.)



For each of the statements listed below, write a I or II to indicate whether this statement applies to Meiosis I or Meiosis II.

|  |  |  |
| --- | --- | --- |
| **#** | **Statement** | **I or II?** |
| 21 | The end result of this process is four daughter cells. |  |
| 22 | The end result of this process is two daughter cells. |  |
| 23 | This process is similar to mitosis. |  |
| 24 | This process converts a parent diploid cell to haploid daughter cells. |  |
| 25 | This process converts a parent haploid cell to haploid daughter cells. |  |
| 26 | Chromosomes line up single file along the metaphase plate. |  |
| 27 | Chromosomes line up in homologous pairs along the metaphase plate. |  |
| 28 | Synapsis (pairing of homologous chromosomes) and crossing over take place. |  |
| 29 | Spindle fibers separate chromatids at the centromere. |  |
| 30 | Spindle fibers separate pairs of homologous chromosomes. |  |